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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,627	07/21/2003	David S. Benco	LUTZ 2 00216	5178

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EXAMINER

DOAN, PHUOC HUU

ART UNIT PAPER NUMBER

2617

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/623,627	Applicant(s) BENCO ET AL	
	Examiner PHUOC H. DOAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-22 is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 09/20/2006 have been fully considered but they are not persuasive.

**Applicant's remarks:** Haymes fails to teach or fairly suggest position data being sent by a mobile in response to or when the mobile determines that a received pilot strength measurement message is less than a predetermined threshold.

**Examiner's response:** Haymes in combined with Souissi, Souissi clearly discloses based on the communication between controller of base station and mobile station that the parameter with a predetermined threshold to be measure at the geographic coordinates corresponding to the location at which communication sent by mobile device when the mobile determines to received strength measurement signal is less than a predetermined threshold with a factor errors such as neighboring power levels , a capacity overload, interference ratio, outbound channel...then a communication difficulty report to the system controller as the resulted of signal strength measurement is less than a predetermined threshold (See col. 6, lines 5-30).

**Applicant's remarks:** the teachings of Souissi as a whole do not suggest a mobile sending position data when it determines that a received pilot strength measurement message is less than a predetermined threshold.

**Examiner's response:** Souissi specifically discloses a mobile sending position data when it determines that a received pilot strength measurement message is less than a predetermined threshold that based on the communication between controller of base station and mobile station that the parameter with a predetermined threshold to be measure at the geographic coordinates corresponding to the location at which communication sent by mobile device when the mobile determines to received strength measurement signal is less than a predetermined threshold with a factor errors such as neighboring power levels , a capacity overload, interference ratio, outbound channel...then a communication difficulty report to the system controller as the resulted of signal strength measurement is less than a predetermined threshold (See col. 6, lines 5-30).

**Applicant's remarks:** there appears to be no teaching or suggestion in Souissi for the portable unit 122 sending a single report without waiting for a request from the controller 112 or waiting for construction of a predetermined maximum number of communication difficulty report.

**Examiner's response:** Applicant made a point in statement "the portable unit 122 sending a single report without waiting for a request from the controller 112 or waiting for construction of a predetermined maximum number of communication difficulty report" that nothing related to the claimed invention. Souissi specifically point out to claimed invention that a mobile sending position data when it determines that a received pilot strength measurement message is less than a predetermined threshold a mobile sending position data when it determines that a received pilot strength measurement message is less than a predetermined threshold that based on the communication between controller of base station and mobile station that the parameter with a predetermined threshold to be measure at the geographic coordinates corresponding to the location at which communication sent by mobile device when the mobile determines to received strength measurement signal is less than a predetermined threshold with a factor errors such as neighboring power levels , a capacity overload, interference ratio, outbound channel...then a communication difficulty report to the system controller as the resulted of signal strength measurement is less than a predetermined threshold (See col. 6, lines 5-30).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haymes (US Patent No: 6,751,443) in view of Souissi (US Patent No: 6,298,233).

As to claim 1, 12, Haymes discloses a method for collecting data to identify an RF dead zone in a cell of a wireless network using a mobile station (120, figure 1) comprising the steps of receiving position data from a powered up mobile station located within a cell at a base station (i.e., 110, figure 1) associated with the cell, the position data sent by the mobile station in response to the mobile station determining that an error rate exceeds a predetermined threshold (abstract and col. 6 lines 15-35, i.e., a first user activated a first user station to measure and to detect a message error while communicating, and then to broadcast an error message to one of its base station, wherein the error message including a location of the first user), and storing the position data in an RF network associated with the wireless

network (col. 7 lines 55-63, i.e., a network manager having a database that contains records of all error messages). Haymes differs from the claimed invention in not specifically teaching to collect the position data in response to the mobile station determining that a received pilot strength measurement is less than a predetermined threshold and communicating the position data from the base station to a mobile switching center associated with the base station and the wireless network, wherein the position data includes multiple coordinates including a location of the mobile station within the cell. However, Souissi teaches a method in a two-way wireless communication system for reporting a communication difficulty comprising the steps of monitoring parameters indicative of communication quality during communications, determining geographical coordinate corresponding to the location at which the communication difficulty occurred when the parameters reaches a predetermined threshold, wherein the parameters consists of received signal strength indication (col. 2 lines 10-22 and col. 6 lines 5-15), wherein a controller (112, figure 1) within a fixed portion (102, figure 3) is operable to generate coverage map, i.e., position data, to service provider (read as mobile switching center associated with the base station and the wireless network) in order to provide automated, comprehensive, cost effective diagnostic reports to identify and correct areas of bad coverage. Therefore, it would have been obvious to a

person of ordinary skill in the art at the time the invention was made to modify Haymes in collecting the position data in response to the mobile station determining that a received pilot strength measurement is less than a predetermined threshold and communicating the position data from the base station to a mobile switching center associated with the base station and the wireless network, wherein the position data includes multiple coordinates including a location of the mobile station within the cell, as per teaching of Souissi, because it provides automated, comprehensive, cost effective diagnostic reports to identify and correct areas of bad coverage.

**As to claim 2**, Haymes further discloses the method as set forth in claim 1 wherein the receiving step is performed whether or not the mobile station is connected to an incoming or outgoing call (col. 2, lines 30-37).

**As to claim 3**, Haymes further discloses the method as set forth in claim 1 wherein steps a) through c) are periodically repeated while the mobile station is powered up and located within the cell (col. 3, lines 1-18).

**As to claim 4**, the combination of Haymes and Souissi further disclose the method as set forth in claim 1 wherein the multiple coordinates include an X coordinate and a Y coordinate associated with a surface area of the cell (Fig. 7 item 706, col.



8, lines 8-15 of Souissi).

**As to claim 5**, the combination of Haymes and Oh further disclose the method as set forth in claim 4 wherein the multiple coordinates include a Z coordinate associated with an altitude within the cell (col. 8, lines 8-15 of Souissi).

**As to claim 6**, Haymes further discloses the method as set forth in claim 1 wherein the RF dead zone network includes an RF dead zone database (col. 3, lines 35-45), wherein the position data is stored in step c) is stored in the the RF dead zone database (col. 4, lines 20-30).

**As to claim 7**, Haymes further discloses the method as set forth in claim 1 wherein the RF dead zone network further includes a data network (col. 3, lines 47-60), an RF dead zone data processor, and an output device (Fig. 3, item 370, col. 3, lines 40-50).

**As to claim 8**, the combination of Haymes, and Souissi further disclose the method as set forth in claim 1, before step a), further including: d) at the powered-up mobile station, receiving information from at least three RF transmitting devices (col. 3, lines 1-10 of Haymes); e) at the powered-up mobile station, determining the multiple coordinates forming the position data from the received information (col. 8, lines 8-15 of Souissi); and f) at the powered-up mobile station, transmitting the position data to the base station (col. 7, lines 34-41 of Souissi).

**As to claim 9**, the combination of Haymes, and Souissi further disclose the method as set forth in claim 8, before step d), further including: g) at the powered-up mobile station, receiving a pilot strength measurement message from the base station (col. 6, lines 16-38 of Souissi); and h) determining that the received pilot strength measurement message is less than a predetermined threshold (col. 6, lines 16-38 of Souissi).

**As to claim 10**, Haymes further discloses the method as set forth in claim 1 wherein the RF transmitting devices include the base station and at least two additional base stations associated with the wireless network (col. 3, lines 1-10).

**As to claim 11**, Haymes further discloses the method as set forth in claim 1 wherein the RF transmitting devices include satellites associated with a global positioning system satellite constellation (Fig. 2, col. 3, lines 18-33).

**As to claim 13**, the claim is rejected for the same reason as set forth in claim 2.

**As to claim 14**, Haymes further discloses all the limitations in col. 3, lines 1-18.

**As to claim 15**, the claim is rejected for the same reason as set forth in claim 8.

**As to claim 16**, the claim is rejected for the same reason as set forth in claim 9.

**As to claim 17**, Souissi further discloses all the limitations in col. 8, lines 8-15.

**As to claim 18**, the combination of Haymes and Souissi further disclose the method as set forth in claim 17 wherein step d) includes receiving information

from at least four RF transmitting devices “col. 2 through col. 3, lines 62-17 of Haymes” and the multiple coordinates include a Z coordinate associated with an altitude associated with the geographic area of the wireless network (col. 8, lines 8-15 of Souissi).

***Allowable Subject Matter***

3. Claims **19-22** are allowed.

**As to claim 19**, the prior art of the record in alone, or combination do not disclose method for collecting data to identify an RF dead zone in a wireless network using a plurality of mobile stations, wherein the wireless network provides wireless service to a geographic area comprised of a plurality of cells, wherein the wireless network includes a plurality of base stations corresponding to the plurality of cells, the method including the steps: at each powered-up mobile station: a) receiving a pilot strength measurement message from the base station; and b) determining that the received pilot strength measurement message is less than a predetermined threshold. c) receiving information from at least three RF transmitting devices; d) determining the multiple coordinates forming the position data from the received information; and e) transmitting the position data to the at least one base station; at one or more base stations: f) receiving position data from each powered-up mobile

station whether or not any of the powered-up mobile station is connected to an incoming or outgoing call, the one or more base stations corresponding to one or more cells in which any of the powered-up mobile stations are located, wherein the position data from each powered-up mobile station includes multiple coordinates indicating a location of the powered-up mobile station within the wireless network; and g) communicating the position data to one or more mobile switching centers associated with the one or more base stations and the wireless network; and at one or more mobile switching centers: h) storing the position data received from the one or more base stations in an RF dead zone database associated with the wireless network.

Dependent claims 20-22 are allowed for the same reason.

### *Conclusion*


4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUOC H. DOAN whose telephone number is 571-272-7920. The examiner can normally be reached on 9:30 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GEORGE ENG can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Phuoc Doan  
09/23/06



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